
Two New Species of *Stylogyne* (Myrsinaceae) from Brazil

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ABSTRACT. During routine identification of material of the genus *Stylogyne* A. DC. (Myrsinaceae), two new Brazilian species, *S. duseonii* Ricketson & Pipoly from the state of Paraná and *S. racemiflora* Ricketson & Pipoly from the state of Amazonas, are described and illustrated and their phylogenetic relationships are discussed.

RESUMEN. Durante el transcurso de identificar material herborizado perteneciente al género *Stylogyne* A. DC. (Myrsinaceae) se descubrió dos especies nuevas brasileñas del mismo, *S. duseonii* Ricketson & Pipoly proveniente del estado de Paraná y *S. racemiflora* Ricketson & Pipoly proveniente del estado de Amazonas. Se describen, se ilustran ambas especies y se discuten su parentesco.

Key words: Amazonas, Brazil, IUCN Red List, Myrsinaceae, Paraná, *Stylogyne*.

The Neotropical genus *Stylogyne* A. DC. (Myrsinaceae) comprises approximately 36 species, and numerous species remain undescribed owing to a lack of adequate material. Understanding the systematic biology of this genus has long been problematic because of its sexual lability. Androdioecious, bisexual, polygamo-dioecious, and dioecious species of *Stylogyne* have been documented (Pipoly, 1989, 1991, 1999; Ricketson & Pipoly, 1997, 2003; Pipoly & Ricketson, 1999, 2000), as well as the consequent morphological variation due to sexual expression. Within the family, *Stylogyne* has often been confused with *Geissanthus* Hooker f. and *Ardisia* Swartz.

During routine identification of Brazilian material of Myrsinaceae, two new species of *Stylogyne* were discovered and are described here.

- 1. *Stylogyne duseonii*** Ricketson & Pipoly, sp. nov.
TYPE: Brazil. Paraná: Volta Grande, 19 Nov. 1911 (fl.), *P. Dusén s.n.* (holotype, GH; isotype, S not seen). Figure 1.

Species haec inter congeneros flores 4-meros praebentes inflorescentiis expansis pinnatim bipinnatimve paniculatis et lamina folari secus margines crenata crenulatave singulariter distinguenda; quoad laminam secus margines crenatam vel crenulatam *Stylogynae warmingii* Mez arctissime affinis sed ab ea lamina foliari 8–12 × 3.4–4.9 (non 5.5–8.5 × 2.5–3.5) cm, inflorescentiis terminalibus (non lateralibus) pinnatim bipinnatimve paniculatis atque pedicellis 7–7.5 (non ad usque 3) mm longis praeclare distinguitur.

Shrub or small tree of unknown height; *branchlets* ca. 2 mm diam., terete, smooth, glabrous. *Leaves* alternate; *blades* membranous, elliptic, 8–12 × 3.4–4.9 cm, apically acute, acumen to 1 cm, basally cuneate, midrib channeled adaxially, prominently raised abaxially, secondary veins numerous, brochidodromous, inconspicuously raised adaxially and abaxially, smooth adaxially, inconspicuously punctate and punctate-lineate, glabrous, margins flat, crenate to crenulate; petioles marginate, 8–12 mm, slender, glabrous. *Bisexual inflorescence* terminal, a slender bipinnately compound, open pyramidal panicle, 2.8–3.2 × 6.7–7.4 cm, wider than long, usually shorter or as long as the leaves, branchlets and rachis glabrous, the fertile branches open, loosely congested into 7- to 11-flowered corymbs; peduncle terete, nearly obsolete to 1.3 mm, glabrous; inflorescence bracts absent; inflorescence branch bracts very early caducous, unknown; floral bracts membranous, lanceolate, 0.9–1.1 × 0.2–0.4 mm, apically acuminate, prominently punctate and punctate-lineate, glabrous, margins irregular, minutely erose, hyaline; pedicels slender, terete, 7–7.5 mm, inconspicuously punctate and punctate-lineate, glabrous. *Bisexual flowers* 4-merous; calyx lobes membranous to chartaceous, widely ovate to orbicular, 0.5–0.7 × 1.1–1.3 mm, apically acute to obtuse, prominently punctate to punctate-lineate, glabrous, margins irregular, minutely erose, hyaline; corolla white, membranous, 4.5–4.8 mm, tube 0.2–0.3 mm, lobes oblong, 4–4.3 × 2–2.3 mm, apically broadly acute to obtuse, prominently punctate and

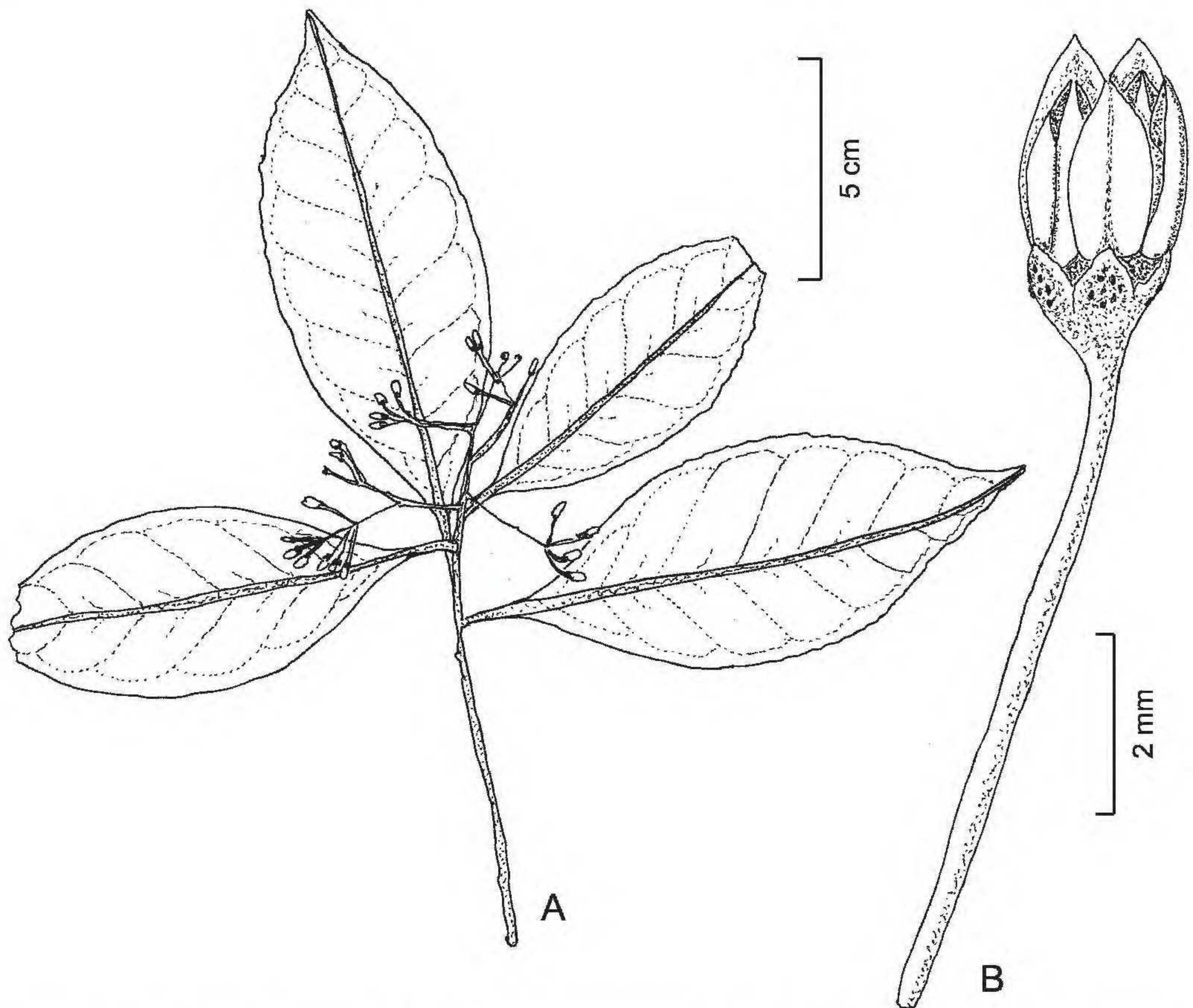


Figure 1. *Stylogyne dusenii* Ricketson & Pipoly. —A. Flowering branch. —B. Detail of bisexual flower, with two corolla lobes removed. Drawn from the holotype *P. Dusén s.n.* (GH).

punctate-lineate, glabrous, margins entire, hyaline; stamens 3–3.6 mm, filaments 1.3–1.8 mm, staminal tube 0.2–0.4 mm, the apically free portion 1.1–1.6 mm, anthers broadly ovoid to oblong, 2–2.2 × 0.7–1 mm, apically apiculate, basally cordate, connective conspicuously punctate; pistil 2.9–3.1 mm, prominently punctate, glabrous, ovary ovate, 1.1–1.3 mm, style 1.5–1.7 mm, prominently punctate and punctate-lineate, ovules 5 to 12. *Fruits* unknown.

Distribution. *Stylogyne dusenii* is known only from the type collection, from Paraná, Brazil, located between 800 and 900 m in elevation.

Ecology and IUCN Red List category. The new species was collected from primary dense forest and cerrado vegetation; this vegetation type experiences a dry season from April to August. Given that the Volta Grande Dam has created a significant reservoir and interrupted the Grande River, the protection the area affords does not outweigh the susceptibility of the ecosystem to fires and to further development, since the region is located between two large interstate highways,

just northeast of Curitiba in Brazil. Therefore, given the precarious habitat, its proximity to major development, and the species being known only from one collection not seen for 97 years, the taxon should be considered Critically Endangered (CR B1a) according to IUCN Red List criteria (IUCN, 2001).

Etymology. The new species is named for the collector, Per Karl Hjalmar Dusén (1855–1926).

Discussion. *Stylogyne dusenii* is unique among the 4-merous members of the genus, with its open, expanded, pinnate to bipinnate inflorescences and crenate to crenulate leaf blade margins. *Stylogyne dusenii* is most closely related to *S. warmingii* Mez, because of their shared crenate to crenulate leaf margins, but *S. dusenii* differs by its larger leaf blades (8–12 × 3.4–4.9 cm), its inflorescences terminal and pinnate to bipinnate, and its longer pedicels (7–7.5 mm long). *Stylogyne warmingii* has shorter leaf blades (5.5–8.5 × 2.5–3.5 cm), inflorescences that are laterally positioned and once pinnate, and shorter pedicels (to 3 mm long).

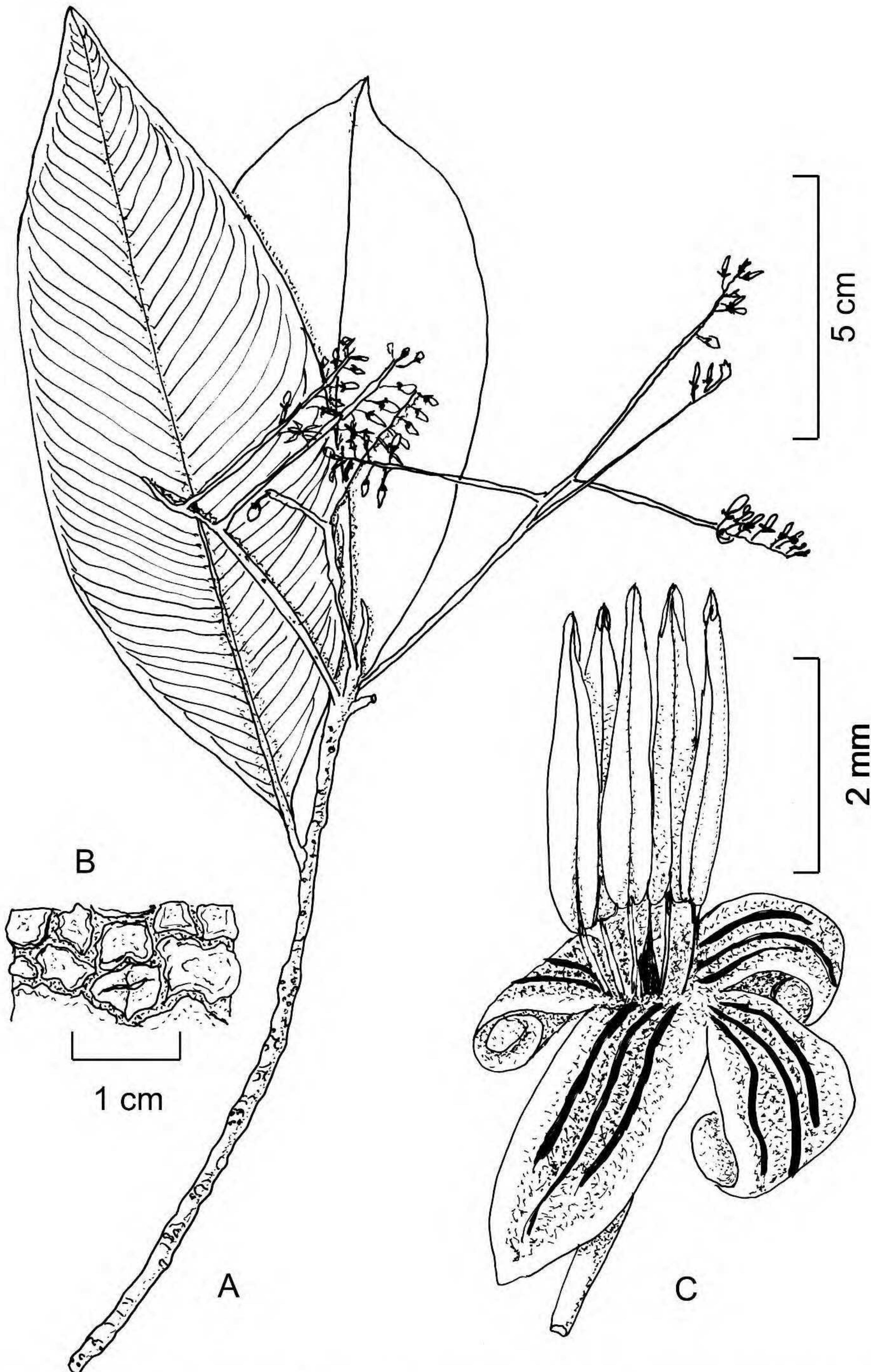


Figure 2. *Stylogyne racemiflora* Ricketson & Pipoly. —A. Flowering branch. —B. Detail of stem showing the scrolled, scaly bark. —C. Bisexual flower. A, C drawn from the holotype *C. Farney et al.* 1705 (MO); B drawn from *B. Nelson* 2603 (MO).

2. *Stylogyne racemiflora* Ricketson & Pipoly, sp. nov. TYPE: Brazil. Amazonas: Mpio. São Gabriel da Cachoeira, Morro dos Seis Lagos, Lago do Dragão, 400–450 m, 14–15 Oct.

1987 (fl.), *C. Farney, D. Daly, D. Stevenson, J. Oliveira & R. de Lima* 1705 (holotype, MO; isotypes, INPA, MO). Figure 2.

Quoad flores 5-meros inflorescentias laterales necnon laminas foliarias chartaceas usque coriaceas species haec cum *Stylogyne rodriguesiana* Pipoly primo intuitu confusa est, sed ab ea ramulis paniculae racemosis (non corymbosis), lobis calycinis deltatis (non anguste ovatis) $1.5\text{--}1.6 \times 1.5\text{--}1.6$ (nec $1.8\text{--}2.2 \times 1\text{--}1.3$) mm, lobis corollinis $3.5\text{--}3.7 \times 1.2\text{--}1.4$ (non $3.9\text{--}4.5 \times 1.5\text{--}1.6$) mm, denique antheris $3.1\text{--}3.2$ (non $2.5\text{--}3.1$) mm longis perfacile recognoscitur.

Shrub or small tree 2–6 m, trunk 2.7–3 cm diam., the bark “scrolled scaly” (Junikka, 1994: 20); *branchlets* 3–5 mm diam., terete, smooth, glabrous. *Leaves* alternate; *blades* chartaceous to coriaceous, oblong to elliptic, $7.2\text{--}20.3 \times 3.4\text{--}6.4$ cm, apically acute to acuminate, acumen 1–1.5 mm, basally acute, midrib channeled adaxially, prominently raised abaxially, secondary veins numerous, brochidodromous, inconspicuously raised adaxially and abaxially, smooth and waxy adaxially, inconspicuously punctate and punctate-lineate, glabrous, margins flat, entire; petioles canaliculate, 8–14 mm, stout, glabrous. *Bisexual inflorescences* lateral, appearing pseudoterminal, as an open pinnate panicle of racemes, $5.5\text{--}12 \times 3\text{--}11$ cm, usually shorter than the leaves, branchlets and rachis glabrous, the few branches open, 10- to 24-flowered racemes; peduncles terete, slender, 2.3–3.5 cm, glabrous; bracts and inflorescence branch bracts unknown; floral bracts membranous, ovate to rounded, $0.7\text{--}0.9 \times 0.7\text{--}0.9$ mm, apically obtuse to broadly acute, inconspicuously punctate and punctate-lineate, glabrous, margins irregular, minutely erose, hyaline; mature pedicels slender, terete, 3.2–4 mm, inconspicuously punctate to punctate-lineate, glabrous. *Bisexual flowers* 5-merous; calyx lobes chartaceous to slightly coriaceous, deltate, $1.5\text{--}1.6 \times 1.5\text{--}1.6$ mm, apically acute, prominently punctate to punctate-lineate, glabrous, margins undulate, hyaline, slightly erose; corolla greenish white, thickly membranous to chartaceous, 4.8–5 mm, tube 1.3–1.5 mm, lobes oblong, $3.5\text{--}3.7 \times 1.2\text{--}1.4$ mm, apically broadly acute to obtuse, prominently punctate and punctate-lineate, glabrous, margins entire, hyaline; stamens 4.8–5 mm, filaments 1.8–2 mm, staminal tube 0.2–0.3 mm, the apically free portion 1.6–1.8 mm, anthers narrowly linear to narrowly lanceolate, $3.1\text{--}3.2 \times 0.4\text{--}0.5$ mm, apically apiculate, basally narrowly cordate, connective inconspicuously punctate; pistil 4.8–5 mm, prominently punctate, glabrous, ovary ovate, 2–2.2 mm, style 2.8–3 mm, prominently punctate and punctate-lineate, ovules 3 to 7. *Fruits* unknown.

Distribution. *Stylogyne racemiflora* is restricted to the Morro dos Seis Lagos area, within the binational Parque Nacional Pico da Neblina, with the type locality noted around 400 m in elevation.

Ecology and IUCN Red List category. The area is characterized by Cretaceous igneous rocks notable for their commercially valuable niobium-containing minerals that occur as intrusions into the pre-Cambrian sandstone of the Guayana Highland. Given the park’s boundary position and the commercial and global strategic value of the naturally scarce niobium, the location is considered one of the best guarded along the Brazil–Venezuela border. As such, the species should be considered of Least Concern (LC) according to IUCN Red List criteria (IUCN, 2001).

Etymology. The specific epithet is in reference to the unique racemose branches of the inflorescence.

Discussion. *Stylogyne racemiflora* is endemic to the Morro dos Seis Lagos area from numerous collections. It was originally confused with and is most closely related to *S. rodriguesiana* Pipoly. Both species have 5-merous flowers, glabrous, expanded lateral inflorescences, and chartaceous to coriaceous leaf blades. However, *S. racemiflora* differs in having an inflorescence of an open pinnate panicle of racemes, broadly ovate calyx lobes ($1.5\text{--}1.6 \times 1.5\text{--}1.6$ mm), smaller corolla lobes ($3.5\text{--}3.7 \times 1.2\text{--}1.4$ mm), and longer anthers (3.1–3.2 mm long). *Stylogyne rodriguesiana* has an inflorescence of an open bi- or tripinnate panicle of corymbs, narrowly ovate calyx ($1.8\text{--}2.2 \times 1\text{--}1.3$ mm), larger corolla lobes ($3.9\text{--}4.5 \times 1.5\text{--}1.6$ mm), and shorter anthers (2.5–3.1 mm).

Much of the material of *Stylogyne racemiflora* was previously regarded as paratypes of *S. rodriguesiana* (Pipoly, 1991). The original description of *S. rodriguesiana* is based on the type material *W. Rodrigues & Chagas 3092* (INPA, NY). The only portion of the *S. rodriguesiana* description that needs to be altered is a portion of the discussion that references “racemose branchlets of the panicles” (Pipoly, 1991: 202). However, *S. rodriguesiana* is clearly characterized by an open bi- or tripinnate panicle of corymbs.

Paratypes. BRAZIL. Amazonas: Mpio. São Gabriel da Cachoeira, Morro dos Seis Lagos, $00^{\circ}20'N$, $066^{\circ}45'W$, 400 m, 30 Sep. 1990 (st.), *B. Nelson 2077* (INPA, MO), (fl.), *B. Nelson 2142* (INPA, MO), (st.), *B. Nelson 2150* (INPA, MO), (fl.), *B. Nelson 2354* (INPA, MO), 2603 (INPA, MO).

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